

Application No.: 10/603,916

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REMARKS

Claims 1-19 are pending in the application, and all of the claims were rejected for multiple reasons. The disclosure was also objected to. Applicants have amended Claims 1, 7, 8, 10, 14, and 19 to correct informalities and clarify some of the terminology. Applicants have also added new Claim 20. Applicants submit that the pending claims are patentable for the reasons discussed in detail below.

The objection to the disclosure:

Section 1 of the Office Action objected to the disclosure, because a reference number related to Figure 1C is incorrectly stated in the specification on page 11, line 13. Applicants have corrected the reference number in the specification. Accordingly, applicants respectfully request that the objection to the disclosure be withdrawn.


The objection to Claim 19:

Section 4 of the Office Action objected to Claim 19 because of an informality regarding lack of antecedent basis for "secure network" and "mobile node." Applicants have corrected Claim 19 to provide proper antecedent basis. Accordingly, applicants respectfully request that the objection to Claim 19 be withdrawn.

Based on amendments to Claim 1 discussed below, applicants have also amended Claims 10 and 14 to provide proper antecedent basis. Applicants have also amended Claim 8 to clarify an acronym.

The 35 U.S.C. §112 second paragraph rejection of Claim 8 and 9:

Section 2 of the Office Action rejected Claims 7-9 under 35 U.S.C. §112, second paragraph, as being indefinite, because the phrase "the router" does not identify which of a "first router" and a "second router" is intended. Applicants have amended Claim 7 to specify that the HA is coupled to the first router. Support is found in Figure 6 and the specification at page 16, line 21

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through page 17, line 3. Claims 8 and 9 depend from Claim 7. Accordingly, applicants respectfully request that the rejection of Claims 7-9 under 35 U.S.C. §112, second paragraph, be withdrawn.

The 35 U.S.C. §102 rejection of Claims 1-4, 7, 8, 10, and 15-19 over Adrangi:

Section 5 of the Office Action indicates that Claims 1-4, 7, 8, 10, and 15-19 were rejected under 35 U.S.C. §102(e) as being anticipated by Andrangi et al. (U.S. Patent Application Publication No. 20040120328, hereinafter referred to as Andrangi). Andrangi is directed to a seamless, secure roaming solution for mobile computing across enterprise firewalls. (See Andrangi, pg. 1, para [0001].) Applicants respectfully disagree that Andrangi discloses or suggests each of the limitations of the rejected claims as defined applicants' specification.

For example, the Office Action incorrectly equates applicant's proxy home agent (PHA) with Andrangi's internal home agent (HAi 305), and incorrectly equates applicant's home agent (HA) with Andrangi's external home agent (HAX 300). Andrangi discloses that embodiments are in conformance with the Mobile IPv4 standard (IETF RFC 3344) or other roaming standards such as Mobile IPv6. (See Andrangi, pg. 2, para. [0021]). Accordingly, Andrangi's HAI performs standard functions of a Mobile IP Home Agent. Andrangi also has an external home agent (HAX 305) which also performs standard functions of a Mobile IP Home Agent. Further, Andrangi discloses that a mobile node "MN 140 registers with HAI 300 and HAX 305." (Angrangi, pg. 3, para [0023], and see para. [0026].) Thus, the mobile node requires two security associations, and hence has two mobility bindings. This means that each data packet between the mobile node and a correspondent node (CN) must be encapsulated in Mobile IP two times, increasing processing and/or the packet size. (See Andrangi, pg. 4, paras. [0027]-[0030].)

In contrast, applicants' specification explains that:

The functionality of a conventional Mobile IP home agent is divided into two parts: the Proxy Home Agent and Home Agent. The signaling and tunneling functionalities of a conventional Mobile-IP home agent reside on the HA. PHA 15 is configured to include the proxying functionality typically found in a Mobile IP HA. (Spec., pg. 8, lines 1-4.)

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Thus, applicants' PHA performs the proxying functionality that is not performed by applicants' HA. Also, applicants' specification explains that:

The Home Agent's IP mobility responsibilities include establishing a connection with the mobile node, creating a security association with the mobile node, and maintaining a record of the mobile node's current location. . .

. . . The Home Agent notifies the PHA that a particular mobile node is connecting from outside the secure network. (Spec., pg. 7, lines 7-13.)

Thus, the mobile node is aware of applicants' HA, but not the PHA. Accordingly, there is only one security association and only one mobility binding. This results in a smaller packet size. Clearly, the meanings of applicants' claimed HA and PHA are not equivalent to, or suggested by Andrangi's HAx and HAI, respectively. Consequently, applicants' claims are not anticipated by Andrangi.

Nevertheless, applicants have amended independent Claim 1 to clarify that the separation of Mobile IP Home Agent functionality between the home agent and the proxy home agent. Support is found in the specification at numerous locations, including page 8, lines 1-9. Andrangi does not disclose or suggest separating Mobile IP Home Agent functionality. Andrangi only discloses that mobile nodes register with multiple home agents, each of which performs full functionality of a Mobile IP Home Agent. (See e.g., Andrangi, paras [0023]-[0025].) Accordingly, the rejection of independent Claim 1 under 35 U.S.C. §102(e) should be withdrawn. Further, dependent claims include all of the limitations of the independent claims from which the dependent claims depend. Thus, dependent claims are patentable for at least the same reasons as the corresponding independent claims. Accordingly, the rejection of Claims 2-4, 7, 8, and 10 under 35 U.S.C. §102(e) should also be withdrawn.

With respect to independent Claims 15 and 19, applicants contend that Andrangi does not disclose or suggest all limitations, because Andrangi does not disclose or suggest an equivalent HA or a PHA, as discussed above. Accordingly, the rejection of independent Claims 15 and 19 under 35 U.S.C. §102(e) should be withdrawn. Also, dependent Claims 16-18 are patentable for at least

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the same reasons as the corresponding independent Claim 15. Accordingly, the rejection of Claims 16-18 under 35 U.S.C. §102(e) should also be withdrawn.

The 35 U.S.C. §103 rejection of Claims 5, 9, and 14 over Adrangi in view of Liu:

Section 8 of the Office Action indicates that Claims 5, 9, and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Adrangi in view of Liu et al. (US Patent Application Publication No. 20030212900, hereinafter referred to as "Liu"). Liu is directed to "packet-classification network services such as firewalls." (Liu, pg. 1, para [0001].) Liu does not disclose or suggest an HA or a PHA. Thus, dependent Claims 5, 9, and 14 are patentable for at least the same reasons as corresponding independent Claim 1. Accordingly, the rejection of dependent Claims 5, 9, and 14 under 35 U.S.C. §103(a) should be withdrawn.

The 35 U.S.C. §103 rejection of Claims 6 and 11-13 over Adrangi in view of Liu & Mikkonen:

Section 9 of the Office Action indicates that Claims 6 and 11-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Adrangi in view of Liu, and further in view of Mikkonen (US Patent Application Publication No. 20040001475, hereinafter referred to as "Mikkonen"). Mikkonen is directed to "routing data packets with regard to virtual private networks (VPN)." (Mikkonen, pg. 1, para [0001].) Mikkonen does not disclose or suggest an HA or a PHA. Thus, dependent Claims 6 and 11-13 are patentable for at least the same reasons as corresponding independent Claim 1. Accordingly, the rejection of dependent Claims 6 and 11-13 under 35 U.S.C. §103(a) should be withdrawn.

New Claim 20:

Applicants have added a new Claim 20 directed to a computer software product that causes an electronic device to perform the actions of Claim 15. Support is found in the specification, including at page 6, lines 15-22.

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In view of the above amendments and remarks, applicant believes the pending application is in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

By


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